

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

1. (Currently Amended) A method, implemented in a data processing system, for generating task-specific code for pattern recognition, the method comprising:  
receiving task-specific input system data of a pattern recognition system; and  
generating task-specific code for the pattern recognition system based on the task-specific input system data, wherein the task-specific code includes computer language suitable for compilation.
2. (Original) The method of claim 1, wherein the pattern recognition system performs speech recognition.
3. (Original) The method of claim 2, wherein the task-specific input system data includes one of a language model, an acoustic model, a front-end for computing feature vectors, and information related to speaker adaptation.
4. (Original) The method of claim 3, wherein the acoustic model includes Gaussians.
5. (Original) The method of claim 3, wherein the language model is represented as a Hidden Markov Model.
6. (Original) The method of claim 3, wherein the acoustic model is represented as a Hidden Markov Model.
7. (Original) The method of claim 1, further comprising:  
compiling the task-specific code to form a decoder program.
8. (Original) The method of claim 7, further comprising:  
profiling the decoder program to form a profile; and  
determining whether the decoder program is optimized.

9. (Original) The method of claim 8, further comprising:  
responsive to the decoder program not being optimized, automatically modifying and recompiling the decoder program based on the profile.
10. (Currently Amended) The method of claim 7, wherein the step of compiling the task-specific code to form the decoder program includes:  
compiling the task-specific code in ~~several~~ a plurality of parts to form a plurality of compiled parts, wherein the plurality of parts correspond to ~~corresponding to several~~ a plurality of modules of the pattern recognition system; and  
assembling the ~~compiled code~~ plurality of compiled parts before execution to form the decoder program, before execution.
11. (Currently Amended) A computer program product, stored in a computer-readable recordable type medium, for generating task-specific code for pattern recognition, the computer program product comprising:  
instructions for receiving task-specific input system data of a pattern recognition system; and  
instructions for generating task-specific code for the pattern recognition system based on the task-specific input system data, wherein the task-specific code includes computer language suitable for compilation.
12. (Original) The computer program product of claim 11, wherein the pattern recognition system performs speech recognition.
13. (Original) The computer program product of claim 12, wherein the task-specific input system data includes one of a language model, an acoustic model, a front-end for computing feature vectors, and information related to speaker adaptation.
14. (Original) The computer program product of claim 11, further comprising:  
instructions for compiling the task-specific code to form a decoder program.
15. (Original) The computer program product of claim 14, further comprising:  
instructions for profiling the decoder program to form a profile; and  
instructions for determining whether the decoder program is optimized.

16. (Original) The computer program product of claim 15, further comprising:  
instructions, responsive to the decoder program not being optimized, for automatically modifying  
and recompiling the decoder program based on the profile.
17. - 20. (Cancelled)
21. (New) An apparatus for generating task-specific code for pattern recognition, the apparatus  
comprising:  
a bus;  
a memory connected to the bus, wherein the memory contains computer readable instructions;  
and  
a processor connected to the bus, wherein the processor executes the computer readable  
instructions to:  
receive task-specific input system data of a pattern recognition system;  
generate task-specific code for the pattern recognition system based on the task-specific input  
system data, wherein the task-specific code includes computer language suitable for compilation; and  
compile the task-specific code to form a decoder program for the pattern recognition system.
22. (New) The apparatus of claim 21, wherein the pattern recognition system performs speech  
recognition.
23. (New) The apparatus of claim 22, wherein the task-specific input system data includes one of a  
language model, an acoustic model, a front-end for computing feature vectors, and information related to  
speaker adaptation.
24. (New) The apparatus of claim 21, wherein the processor further executes instructions to:  
profile the decoder program to form a profile; and  
determine whether the decoder program is optimized.